**Observations:** Complete the following:

* Cells must maintain homeostasis which means
* pH is
* protein structure is determined by
* enzymes are
* enzymes function in
* enzymes are denatured by
* Buffers keep pH stable by absorbing or donating H +(hydrogen ions)

**Question: (purpose)** Are living cells able to keep their pH stable?

**Hypothesis: (answer/explanation)** Include reason for hypothesis(rationale**)**

**Materials**: buffer, water, plant cells, animal cells, NaOH 0.1 M, HCL 0.1M, pH strip, containers/pipettes, well plate

**Method:** Design an experiment to test a hypothesis about cells and pH

use 1 drop of pH solutions to a full well of of control or experimental solutions

**Experimental Design:**

Describe in bullets the experimental set up

Draw a diagram with labels to illustrate the experimental procedure.

Identify the variables/factors affecting the experiment (IV, DV, Control) List constant factors(at least 4)

Bulleted Description (be sure to note safety measures)

Experimental Diagram (show well setup and # of drops of each substance to be added)

**Data:** Title and Label the data Table (each cell represents a well in your well plate)

Data: Complete the table with title and row and column headings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Notes/observations during experimental procedure**

**Analysis:** Describe results in bulleted statements:

**Conclusion/discussion:**

Complete an outline for your rough draft report with the following information

Bullet the following information:

* Purpose/hypothesis
* Concepts which explain the hypothesis
* Results which do or don’t support the hypothesis
* Discussion of the significance of the results to the concepts behind the hypothesis
* Discussion of technique validity(what went wrong/could be improved)
* Discussion of results validity(what went wrong/could be improved)
* Description of other questions that this technique could be used to investigate